

Recovery Plan Action Status

Plan Name: Lana'i Plant Cluster Recovery Plan

Plan Status: Final

Plan Date: 29-Sep-95

Lead Agency: USFWS

Lead Office: Pacific Islands Fish And Wildlife Office

(408)
792-9400)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	111	Identify all wild populations	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Research: Population Surveys	Contract	This is an ongoing action, as the status of the species and their threats change constantly. Two historical populations of Abutilon menziesii have been relocated on State/City and County lands on Oahu at Kalaeloa and on DOD lands at Lualualei.

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Lanai sandalwood (= `iliah) (<i>Santalum freycinetianum</i> var. <i>lanaiense</i>), Ha' iwale (<i>Cyrtandra munroi</i>)	1	1136	Protect habitat owned by the State of Hawai'i	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Acquisition: Management Agreement	Internal Administrative	The one extant population of <i>Santalum freycinetium</i> var. <i>lanaiensis</i> on west Maui is within the Lihau section of the West Maui Natural Area Reserve. One population of <i>Cyrtandra munroi</i> on west Maui is within the Honokowai section of the West Maui Natural Area Reserve, and the remaining populations are on Alexander and Baldwin and Maui Land and Pineapple Co. lands, all within the West Maui Watershed Partnership. One population of <i>Tetramolopium remyi</i> on State land in West Maui below Paupau is not protected.
No common name (<i>Gahnia lanaiensis</i>), No common name (<i>Tetramolopium remyi</i>), No common name (<i>Viola lanaiensis</i>), Lanai sandalwood (= `iliah) (<i>Santalum freycinetianum</i> var. <i>lanaiense</i>), No common name (<i>Phyllostegia glabra</i> var. <i>lanaiensis</i>), Haha (<i>Cyanea macrostegia</i> ssp. <i>gibsonii</i>), No common name (<i>Abutilon eremitopetalum</i>), Ko' oloa' ula (<i>Abutilon menziesii</i>), Ha' iwale (<i>Cyrtandra munroi</i>)	1	114	Work with Hawaii to enforce protection from development	Ongoing Not Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Fish and Wildlife Service, Law Enforcement Division	Other: Law Enforcement	Internal Administrative	Little progress has been made on this action. The State law has changed since this recovery plan was written to allow habitat conservation plans for plants and animals, and this measure has been implemented for the <i>Abutilon menziesii</i> population found at Kalaeloa on Oahu.

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No common name (Gahnia lanaiensis), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), Ha'iwale (Cyrtandra munroi)	1	1212	Implement fencing for Lana'ihale area	Partially Complete	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc.	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control	Contract, Internal Field Assistance, Volunteer	The first of three fencing stages to protect Lanaihale was completed in 2005 and protects the only population of Phyllostegia glabra var. lanaiensis, at least one population of Cyanea macrostegia ssp. gibsonii, the Lanai populations of Cyrtandra munroi, and two of the three populations of Viola lanaiensis. The remaining C. macrostegia ssp. gibsonii populations and the remaining Viola lanaiensis population are within stage 2. Gahnia lanaiensis populations are within stage 3. Santalum freycinetianum var. lanaiensis populations are scattered throughout all three stages.

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Ha'iwale (Cyrtandra munroi)	1	12143	Fence Maui Cyrtandra munroi population	Partially Complete	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	All of the west Maui populations are strategically fenced or have fences planned in the near future to prevent the ingress of goats, deer, and pigs by the West Maui Watershed Partnership.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	1	1216	Remove ungulates from fenced areas	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Castle & Cooke, Inc., U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract	This task is current for all existing fenced areas except Puu o Kali, where BRD is working on removing the last deer within the fence.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	1218	Determine effects of excluding ungulates	Obsolete	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract	While removal of ungulates may allow the alien plant species to increase, the impact of the ungulates on native plants is well understood, and this task is no longer needed. Rather, any area that is fenced and free of ungulates must also be managed for alien plant species, especially those that can radically alter the habitat.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	1	1231	Determine alien plant control methods	Ongoing Current	FY 1995 - FY 1999		Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract	Numerous studies on the control of various alien plants have been or are being conducted by the Invasive Species Committees and land managers on each island, and the results of these studies are used to determine the best method of weed control for alien plant pests found in the habitat of these nine species.

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Ha'iwale (Cyrtandra munroi)	1	12327	Implement weed control for Maui C. munroi population	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Management: Habitat Maintenance and Manipulation	Contract	The West Maui Watershed Partnership is controlling some of the major habitat-altering weeds, but additional weed control in the immediate vicinity of Cyrtandra munroi may be needed.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	1	1233	Prevent introduction of new alien species	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture, U.S. Department of Agriculture, U.S. Fish and Wildlife Service, Law Enforcement Division	Management: Habitat Maintenance and Manipulation	Contract	Incipient weeds are eradicated by the various island Invasive Species Committees. In addition, the Hawaii Invasive Species Committee and the Coordinating Group on Alien Pest Species are working to prevent additional species from entering the state.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	1261	Ensure that native pollinators remain available	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task has not been started because little is known about the pollinators of these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	127	Protect sites from potential direct threats from humans	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc., Hawaiian Commercial & Sugar Co., Haleakala Ranch Co., Ulupalakua Ranch	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance, Volunteer	This task has not been started, as direct human activities do not appear to be a threat to these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	1	129	Maintain genetic stock	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Propagation	Contract	The existing ex situ collections are not genetically adequate for these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	23	Map alien vegetation	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, U.S. Geological Survey, Biological Resources Division	Research: Habitat Status	Contract	This task is being conducted for some alien species by the Maui and Molokai Invasive Species Committees and BRD's Hawaii Ecosystems at Risk, but a more concerted effort is needed.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	25	Study reproductive viability	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Population Surveys	Contract	The current knowledge has been gathered mainly for incidental observations during propagation, field surveys, and monitoring. More detailed experimental research is needed to fully understand this aspect of these species.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	276	Determine impact of other diseases / pests	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture	Research: Predation	Contract	This is an ongoing task, as new threats are constantly entering the state and becoming established in natural areas.

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No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	281	Determine control methods for rodents	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Department of Agriculture, U.S. Geological Survey, Biological Resources Division, U.S. Animal and Plant Health Inspection Service, Wildlife Services (formerly Animal Damage Control)	Research: Competition	Contract	Large scale rodent control will not be possible until aerial pesticide application is registered for use in the state of Hawaii.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	287	Determine control methods for other diseases and pests	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture	Research: Management Techniques	Contract, Graduate Student, Internal Technical Assistance, Species Expert	This task has been abandoned until other diseases or pests are observed.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	288	Evaluate research results and use in future management	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Habitat Maintenance and Manipulation	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	311	Identify sites for expansion	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Internal Administrative	Sites have been selected by DLNR for reintroduction into small scale fenced areas for several species.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	312	Identify material to be used for augmentation	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	This task is limited based on material available in ex situ collections.
Ha' iwale (Cyrtandra munroi)	2	3134	Determine propagation methods for Cyrtandra munroi	Complete	Prior to FY 1995	FY 2008	U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	This species has been tested.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	314	Determine reintroduction techniques	Partially Complete	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	321	Implement Expansion plans: Propagate ex situ	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, National Tropical Botanical Garden, Hawaii Department of Land and Natural Resources	Management: Propagation	Contract	This task is limited based on the material available in ex situ collections.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	322	Implement Expansion plans: Prepare sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	323	Implement Expansion plans: Plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	324	Implement Expansion plans: Monitor and maintain new individuals	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii, Castle & Cooke, Inc.	Management: Reintroduction	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	41	Investigate feasibility and desirability of introduction	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	421	Identify sites for reestablishment	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Management: Reintroduction	Contract	
Ha'iwale (Cyrtandra munroi)	2	4223	Identify material for Cyrtandra munroi reestablishment	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Research: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko'oloa'ula (Abutilon menziesii), Ha'iwale (Cyrtandra munroi)	2	431	Implement reestablishment plans: Secure reestablishment sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Acquisition: General	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	432	Implement reestablishment plans: Prepare reestablishment sites	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Management: Habitat Maintenance and Manipulation	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	433	Implement reestablishment plans: Plant	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Research: Reintroduction	Contract	This task is limited based on the material available in ex situ collections.
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), No common name (Phyllostegia glabra var. lanaiensis), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	2	434	Implement reestablishment plans: Monitor and maintain new populations	Ongoing Not Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, The Nature Conservancy of Hawaii	Management: Habitat Maintenance and Manipulation	Contract	

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	3	51	Determine number of populations needed for long term survival	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources, U.S. Geological Survey, Biological Resources Division	Other: Regulations	Contract	
No common name (Gahnia lanaiensis), No common name (Tetramolopium remyi), No common name (Viola lanaiensis), Lanai sandalwood (= iliahi) (Santalum freycinetianum var. lanaiense), No common name (Phyllostegia glabra var. lanaiensis), Haha (Cyanea macrostegia ssp. gibsonii), No common name (Abutilon eremitopetalum), Ko' oloa' ula (Abutilon menziesii), Ha' iwale (Cyrtandra munroi)	3	52	Refine/revise downlisting and delisting criteria	Not Started			U.S. Fish and Wildlife Service, Ecological Services Division, Hawaii Department of Land and Natural Resources	Other: Regulations	Contract	